REMARKS/ARGUMENTS

Reconsideration of this application is respectfully requested.

Claim Rejections – 35 USC § 102

The Office Action rejected claims 1, 3, 28 and 30-31 under 35 USC § 102(b) as anticipated by Abbes, et al. Abbes, et al. teach a tight connection device for interconnecting pipes having flanges with angled top surfaces. The flanges are drawn into abutment by two clips that exert force on a segmented ring. Each segment of the ring has an inner peripheral surface that applies pressure on angled top surfaces of the respective flanges. In one embodiment, the clips are forced together by a nut. In another embodiment the clips are forced together by bolts inserted through holes in the clips. The gasket 6 is fitted to the outer circumference of the pipe and is c-shaped. As would be understood by those skilled in the art, the c-shaped gasket 6 cannot provide a high pressure seal.

With respect to claim 1, claim 1 is amended to call for a threaded union comprising a metal ring gasket having beveled corners and an octagonal cross-section received in complimentary ring gasket grooves. Pressure energized seals and the principle of pressure energization should be understood by those skilled in the art. For example, United States Patent 5,505,498, at column 7, lines 14-22, explains how pressure differential forces a seal into contact with a sealing surface to increase the seal's fluid resistance as contained pressure increases. In other words, a pressure energized seal provides increasing resistance to the escape of fluids as the pressure being contained increases.

The elements of claim 1 are neither disclosed nor taught by Abbes, et al., and the rejection of claims 1 and 3 is traversed.

With respect to claim 28, the same limitations are introduced, and the rejection of claims 28 and 30-31 is likewise traversed.

Claim Rejections – 35 USC § 103

The Office Action rejected claims 1, 3-7, 10, 12-14, 28 and 30-31 under 35 USC § 103(a) as being unpatentable over Putch, et al. in view of Laird.

As explained in the response filed 22 June 2005, Putch, et al. teach a flanged union, rather than a threaded union, that includes a metal wellhead seal for sealing between inner and outer concentric wellhead components. The wellhead seal includes a circular metal seal ring having a flat end and a tapered end and positioned between the inner and outer components. Applicant again respectfully submits that the teachings of Putch, et al. are irrelevant to the invention claimed in claims 1, 3-7, 10, 12-14, 28 and 30-31.

The metal seal ring shown in the drawings of, but not described in, Putch, et al. between the flange components of the flanged union is a BX ring well known in the art. BX rings are widely used in flange unions and require sequential bolt tightening in order to achieve adequate compressive force to compress the BX ring into sealing contact with the grooves. The BX ring does not provide a pressure energized seal. Flange makeup, a procedure well known to those skilled in the art, requires that closely spaced bolts that connect opposed flanges together be tightened in a predetermined sequence. Not only must the flanges be bolted together, every bolt must be tightened in the predetermined sequence to a predetermined torque. BX rings, such as the one shown in Putch, et al., have been widely used in high-pressure applications for decades. To Applicant's knowledge however, a BX ring has never been used in a threaded union because adequate torque can not be developed by the nut of a threaded union to crush a BX ring as required for a high-pressure fluid seal. It is therefore respectfully submitted that Putch, et al. teach nothing that would lead a person of skill in the art to the claimed invention. It is further submitted that the silence of Putch, et al. about the metal seal ring shown but not described cannot be used to deny or negate common general knowledge about the metal seal rings used in flanged unions.

Laird teaches a gasket 10 of an annular frusto-conical shape that is mounted in duplicate grooves 12 which are formed on opposing faces 14 and 16 respectively in flanges 18 and 20 (lines 95-99). No combination of Laird and Putch, et al. teaches or suggests a threaded union comprising a metal ring gasket having beveled corners and an octagonal cross-section for providing a high-pressure energized seal as claimed in amended claims 1, 4 and 28. The rejection of claims 1, 3-7, 10, 12-14, 28 and 30-31 is thereby traversed.

Response to Arguments

The Examiner's response to arguments have been carefully considered and are reflected in the comments above and the instant limitations introduced into the independent claims.

Conclusion

In view of these amendments, and for reasons set forth above in detail, applicant respectfully submits that this application is now in a condition for immediate allowance. Favorable reconsideration and early issuance of a Notice of Allowance is therefore requested.

Respectfully submitted,

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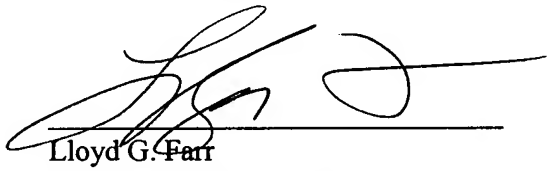

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